**Learn Gentics Utah NEW**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

<http://learn.genetics.utah.edu/>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Single gene disorders** | Describe & symptoms | How do you get it? | Treatment  Gene therapy? Short explanation/list | Interesting facts/ diagnose? |
| Cystic Fibrosis |  |  |  |  |
| Huntington’s Disease |  |  |  |  |
| Phenylketonuria |  |  |  |  |
| One other of your choice |  |  |  |  |
| **Chromosomal Abnormalities** |  |  |  |  |
| Cri-du-chat syndrome |  |  |  |  |
| Down Syndrome |  |  |  |  |
| Klinefelter Syndrome |  |  |  |  |
| **Multifactorial disorders** |  |  |  |  |
| Alzheimers |  |  |  |  |
| Breast/Ovarian cancer |  |  |  |  |

**Answer the following questions**

1. What are genetic disorders?(HOME)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Home🡪 Genetic Disorders🡪**

1. Left over newborn blood spots . What happens to left over newborn blood spots? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   1. How are they used?
   2. To investigate the environment?
   3. In research? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is Gene Therapy?
3. How do you choose a candidate for gene therapy? 4 details/questions

**Family Health History- Common Risk associated diseases**- Investigate 2 diseases

1. Disease name-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; What is it?
   1. How can you decrease your risk?
2. Disease name-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; What is it?
   1. How can you decrease your risk?

**Home🡪 Characteristics of Inheritance🡪 PTC: Genes and Bitter taste**

1. Why do some people taste the PTC and some Not?

**Home🡪 Characteristics of Inheritance🡪 Genes and Blood type**

1. What are the 2 agglutinogens that are attached to blood?
2. What is the function of an antibody?
3. Why is the antibody a problem during a transfusion?
4. What antibodies are produced to type A blood?\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Antibodies for Type O are \_\_\_\_\_\_\_\_

**Home**🡪 **Characteristics of Inheritance**🡪 **Traits Activities**

1. List 4 traits that you have that are dominant. If you don’t have 4, tell which 4 you have that are recessive.

**Home 🡪 Molecules of Inheritance🡪 Build a DNA molecule.**

1. how long does it take you to complete the DNA exercise?Circle-( less than 1 min, more than 1 minute)
2. How many base pair do yo get from your parents? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(at bottom of page)

**Home**🡪 **Characteristics of Inheritance**🡪 What is a gene?

1. Roughly, how many genes do we have? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ How many are needed to carry out their instructions?

**Home**🡪 **Molecules of Inheritance**🡪 **Things you may not know about DNA**

1. What does it mean by same genes, different alleles? Give an example
2. Explain how mutations impact us based on the video.
3. What makes the brain and heart cells different?

**Home**🡪 **Molecules of Inheritance**🡪Transcribe and translate a gene

1. How long goes it take you to complete the exercise? (less than 1 minute, 1-3 minutes, over 3 minutes)

**Home**🡪 **Molecules of Inheritance**🡪 Prions: on the trail of killer proteins

1. What are 4 diseases caused by prions?
2. How is the disease transmitted?
3. What methods have been tried to Kill it?
4. Why can’t it be killed?

**Home**🡪 **Genetic Variation**🡪 **Sexual vs. Asexual Reproduction**

1. Click on the organisms and choose if how they reproduce. Which ones did you miss?

**Home**🡪 **Genetic Variation**🡪**The outcome of Mutation**

1. Click on at least 3 organisms indicated.
2. What organisms/traits did you look up? Identify if it was a variation/disease or both
   1. **.**
   2. **.**
   3. **.**

**Home**🡪 **Genetic Variation**🡪 **What is Mutation**

1. Most mutations are not harmful because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What happens if the DNA is so damaged that the repair machinery cannot fix it?

**Home** 🡪 **Stem Cells** 🡪 **The nature of Stem Cells**

1. Why are stem cells important in our body?
2. How can they be used to treat disease?